Federal Extension Service
U. S. Department of Agr.

METHODS OF COLLECTING DATA

The person conducting the evaluation needs to decide what is the most practical way to collect the data. He needs to consider the type of device that he has selected to get evidence as well as the conditions under which he will have to work and the demands of his other work, time and budget.

A. <u>Some of the different methods of collecting data are:</u>

1. The mail questionnaire.
2. Personal-interview questionnaires or schedules.
3. Individually distributed questionnaires and checklists of all kinds.
4. Group interviews.
5. Case studies.
6. A systematic observation procedure.
7. A systematic study of available records.

B. <u>Decisions as to which method to use depends on the following considerations:</u>

1. The objectives of the study and the type of device selected by which to obtain evidence.
2. The respondents from whom you will need to get the data. Where and how can they best be reached, at home, through the mail, at meetings, or elsewhere? Will they represent a sample of the total population which the extension worker has attempted to reach?
3. The resources you have available such as:
    a. Your time, demands of other work.
    b. The time of others who will also work on the study.
    c. Money available for supplies, stenographer and statistical help if needed.
    d. The time it will require of the respondent, the person who is to answer the questions or give the information.
4. The advantages and limitations of each method.

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C. Analysis of each method.

In selecting the method to use in collecting data the evaluator needs to analyze each method to see whether or not it will provide him with valid and reliable information. Each method has its advantages and limitations. These should be taken into consideration in making decisions. Let us first take up the mail questionnaire.

1. The mail questionnaire is a questionnaire sent to respondents who return it by mail. Before deciding to use this method there are certain questions which we need to consider:

   Can the questions on the mail questionnaire be fitted to the objectives of the project in question? Can the questions be stated in a clear and understandable fashion without further explanation?

   What about the people returning them? Are they representative of the group with whom we have been working or of the "population?"

   a. Some of the advantages of the mail questionnaire:

      (1) It is an easy, quick and relatively inexpensive method of obtaining data especially as in comparison with a similar personal interview.

      (2) It can be planned to reach a wide geographic distribution of people including some quite inaccessible people provided that they are on the mailing list.

      (3) It is useful in reaching a relatively homogeneous, fairly well-educated group. It is also well adapted for reaching specific groups such as dairy farmers, poultrymen, or homemakers who belong to organized home demonstration groups.

      (4) It can be free of any interview bias.

   b. Some limitations of the mail questionnaire:

      (1) The questionnaire must be short.

      (2) It is difficult to obtain detailed qualitative answers or to know precisely what the responses mean.

      (3) Those who reply may not be the typical members of the list. Those who have made changes in practices or who are especially interested or who are especially opposed to the ideas presented are the more likely to reply.

      (4) Questionnaires should be returned from everyone in the sample. This usually requires follow up. It takes time to write follow-up letters, to make telephone calls and to call up respondents who fail to reply.

2. Personal interview questionnaires or schedules used in asking respondents questions and recording the answers. These schedules are filled in by an enumerator or reporter. This method is used in a more formal type of study in which an interviewer calls on a cross section of people in the county. The assisting interviewers are usually neighboring county extension workers, State extension workers, and lay people, such as program planning committee members.

   a. Some advantages of personal-interview method.

      (1) The people who participate have an opportunity to observe and study situations and conditions. They talk directly with people and get their reactions to practices and programs.

      (2) The personal-interview method usually yields a high percentage of returns as most people are willing to cooperate.

      (3) The interviewer has an opportunity to explain questions to respondent.

      (4) Complete answering of all questions can usually be obtained. Because of this greater numbers of returns are assured than when most other methods are used.

   b. Some limitations of the personal-interview method.

      (1) Transportation costs and time required in a large area may make the personal interview method impracticable.

      (2) Unless the interviewers are properly trained and supervised, the data recorded may be inaccurate and incomplete. A few poor enumerators can bias the study.

      (3) It is usually claimed that costs per interview are higher than when mail questionnaires are used. This may not be true if the area to be covered is not too great. The personal follow-up of the mail questionnaire in order to secure records needed may run cost as much as personal interviews.

3. Individually distributed questionnaires or checklists of all kinds.

   Questionnaires and checklists are often used interchangeably. These are usually handed directly to the respondents individually or in groups who answer the questions and hand them back to the person conducting the evaluation. The respondents are asked to indicate their answers to questions by checking or otherwise indicating their answers to a list of statements. These are usually distributed:

(1) To all persons in a group or to all persons attending a meeting, and filled out in the meeting, (2) to a sample of people who are participants of a group or meeting but the questionnaires are filled out at home, (3) to leaders who ask their neighbors or members of the group for information. These small questionnaires or report forms are used extensively in home demonstration work. They are used to collect evidence or progress made, usually practices adopted for use in program planning and in writing the annual report.

a. Some advantages of the individually distributed questionnaires.

(1) The questions have a definite relation to recognized goals or objectives.

(2) The cost is small and they are easy to administer.

(3) Quick way of surveying the group.

(4) The questions, if filled out in a meeting, can be used as a basis for discussion and can indicate the next steps in program planning.

(5) People involved in filling out the forms are also usually involved in program planning process.

(6) These devices used before and after a meeting or a series of meetings can be used as interest getters.

b. Some of the limitations of the individually distributed questionnaire.

(1) The people who fill out these forms are usually participants in the program and know the objectives and may be inclined to answer "yes" to the questions.

(2) These report forms or questionnaires may center attention on "practices adopted" rather than other kinds of behavioral changes.

(3) Formal extension studies indicate that participants of home demonstration groups are not representative of the other homemakers in the county, therefore, it is necessary to interview a cross section of families in the county to actually measure changes made by others than those in the organized group. In other words, these individually distributed questionnaires tend to measure progress only of those who participate in the program.

(4) They are usually short and therefore cover only a limited field of study.

4. Group interviews.

The leader of study presents a questionnaire or schedule to a group of people assembled in one place. Each person in the group is asked to record his or her answers to the question as it is read. To secure an adequate cross section those people interviewed must be carefully selected so as to secure representative samples of the people about which generalizations are to be made.

a. Some of the advantages of group interviews. (Advantages are similar to those of the individually distributed questionnaires.)

(1) If the persons in the group are homogeneous and if the persons attending the meeting are representative data are easily and readily obtained.

(2) There is very little cost - easy to administer.

(3) Speedy - the whole interview can be conducted in a very brief time.

(4) The questions can be used as a basis for discussion and can help toward program planning.

(5) Group interviews used before and after a meeting or series of meetings can be used as interest getters.

b. Some of the limitations of the group interview. (Limitations are similar to those of the individually distributed questionnaires.)

(1) Since you want independent judgments there should not be any discussion, however, someone may talk.

(2) The replies may be unconsciously or otherwise influenced by those with strong opinions.

(3) The people attending a meeting are seldom representative samples of the entire group.

(4) The questionnaire used for group interviewing is usually short and therefore can cover only a limited field of study.

5. Case studies.

A complete story from one or a few individuals or cases -- a chronological story of the development of a project, an activity or a case story of an individual family. Frequently these are stories of concrete events which are vivid, convincing stories of the effects of a program, and they may constitute important evidence.

a. Some of the advantages of case studies.

(1) A case study gives concreteness to problems and solutions.

(2) It presents the situation, reveals the importance of human factors in organization - shows the difficulty of problems as they arise. Often a case study will bring out important factors which are assumed and for that reason unmentioned by respondents interviewed by other methods.

(3) May show how decisions are made.

(4) Case studies show the importance of timing.

(5) They show the continuity of development and unfolding of the project or activity.

(6) They bring out the problems as they arise and how these problems were solved and the mistakes made.

(7) They afford an opportunity to study a process minutely and discover its strengths and weaknesses.

(8) They are effective in serving as springboards to further thought and consideration, a good teaching device.

b. <u>Some of the limitations of case studies</u>.

(1) Case studies may give particularlized data, they may emphasize the unique.

(2) They may provide data on only 1 or 2 aspects of a problem, and not on all relevant aspects.

(3) A case study is only <u>one</u> case. Unwarranted conclusions may be drawn.

6. <u>Systematic observation procedure</u> is used during farm and home visits. Observation of practices which have been recommended in the county are observed and recorded in some systematic manner.

a. <u>Some of the advantages of systematic observation</u>.

(1) The county extension worker knows the recommended practices. He can observe --

(2) To what extent they are being adopted.

(3) He can have them listed on an observation sheet and check them off.

(4) First-hand information.

(5) Permanent farm record information.

(6) Progress can be shown.

b. Some of the limitations of systematic observation.

(1) The observer may use his own values, attribute importance to what he thinks is important.

(2) Diffcult to separate observation from interpretation.

(3) Enumerator has only his intuition to tell him what is representative, frequent.

(4) Costly for much information.

(5) Impractical to do for much information.

(6) Details important for analysis may be omitted.

7. Systematic study of available records such as: 4-H Club project records, farm and home development records. An analysis of records and reports involves much more than recording and reporting.

a. Some of the advantages of the study of records.

(1) Data can be obtained readily from the records without effort of survey.

(2) They are reliable if they have been carefully kept.

(3) Information from past which could not be collected today.

b. Some limitations of the study of records.

(1) Records may not be carefully kept.

(2) Records may be incomplete.

(3) Records may not be from representative people.

(4) Often no opportunity to make actual check up.

D. Making plans to carry out the evaluation.

Seven different methods of collecting data have been discussed. Decisions need to be made not only as to the method of collecting data but also as to who will be responsible for gathering the information and when it will be done.

1. Who will be involved in gathering the information? This varies with the type of information wanted and the method used in collecting the data. If a mail questionnaire is to be used only the county agent may be involved. However, lay people should be involved in planning the evaluation and whenever possible shall be used in the collection of the information. An important value resulting from a study is the training and information gained by participants. The people who are involved in the development and execution of a program should be involved in its evaluation.

a. Agent alone in the county or with other agents in home county.

b. Agents from another county.

c. Agents and lay people.

d. Agents, lay people and State staff personnel.

e. Agents, lay people, State staff and Federal staff personnel.

2. When will the information be collected?

It is desirable to determine considerably in advance the exact period, such as the month or season, or definite time after the work has been taught or the activity completed. Also the evaluation should be planned so as to avoid heavy work seasons of farm people.

When the information is to be collected depends also on the other jobs that must be done in the evaluation, the time that must be allowed for each job. A schedule needs to be worked out or developed from the beginning which gives (1) jobs to be done, (2) when each job is to be done, and (3) who is responsible? (Please see an example of such a schedule at the close of this chapter.)

3. Where will the study be made?

Step-by-step development of plans have been covered up to this point and the method used in collecting data and from what people will decide where the study is to be made.

E. <u>Training interviewers.</u>

If the data are to be collected through personal interview with families it will be necessary to train the interviewers. The purpose of the training is to assure the collection of accurate and complete data.

1. In the training meeting the interviewers are given instructions in:

   a. Defining again the purpose of the study.

   b. How to locate their families on the sample.

   c. How to use the record forms.

   d. How to record the data.

   e. How to interpret each question and to know the purpose of each question.

   f. How to ask the questions.

   g. Practice interviewing.

2. Example of training meeting.

   Following is an outline of a training meeting:

TENTATIVE PROGRAM FOR STUDY IN COUNTY

Meeting for Monday, March 7, 1955
Silver City, Grant County, New Mexico

______ Room. _______ Location. ______ Town.

Presiding: Home Demonstration Agent and County Agricultural Agent. ____________

10:00 to 11:00 a.m.	Opening of the meeting.	____________
	Purpose of the study.	____________
	Geography of county and farming and industry in county. Brief review of extension work in the county both agriculture and home economics giving history, kinds of program carried during current year, communication channels such as local newspapers, radio, TV, etc.	County Agr. Agent H.D.A.
11:00 - 12:00 Noon	An explanation of map of county - how sample of families were selected. Each interviewer is given a map with 20 or more families located on it (or areas marked on it) which interviewer is to visit during the week.	County Agr. Agent H.D.A.
12:00 to 1:00	Lunch	
1:00 to 2:30 p.m.	Go over questionnaire question by question. State purpose of each question. Define terms and give rules of interviewing. Each person practices interviewing another	____________
2:30 to 5:00 p.m.	Each interviewer should interview 2 families if possible during the afternoon. (These families can be selected from families living closest to town.).	____________
6:00 to 7:00 p.m.	Dinner	
7:00 to 8:30 p.m.	Conference of all interviewers each night at this time to go over questions and clear up any problems or questions. Edit schedules each evening and during the day.	____________
	Place of meeting -	____________

Members of the survey party should leave the office or hotel each morning early enough so that they can reach their first home by about 9:30.

It is estimated that each interviewer may be able to visit 5 to 6 families each day but this depends on distances the interviewer will need to travel.

The study should close by Friday noon, early enough so all can be on their way home. Again this depends on whether we get through with interviewing all families selected.

3. Some suggestions for interviewing.

a. How to approach the respondent.

Many questions may be avoided later on during the interview if you make clear who you are, the purpose of your visit and why this particular family was selected for the interview. Each person has his own way of introducing himself but here is an example:

"I am john Jones. I am helping the (name of State) Agricultural Extension Service to find out from some of the people around here how the Extension Service can be of more help to you and the other families in this area. Your answers will be confidential. They will be added to those of the 200 people with whom we are talking. Your name was selected from a complete list of names of farm people in the county. We drew 200 names at random. Yours came up, you are part of a sample. I would like to talk with you if I may. It will not take too long a time."

During the interview after the first question or two you may need to explain again who you are and the purpose of the interview. Questions may come up as follows:

(1) What are you going to do with all this information?

It will help the Extension Service in its work with farmers and homemakers in the county.

(2) What good is it? (See above.)

(3) Who's paying for it?

(The (name of State) Agricultural Extension Service.

(4) Why was I selected for this study?

"As I said we are going to visit about 200 farmers and homemakers. This represents a cross section of farmers and homemakers from different parts of the county, taking in large farm operators, small operators, etc. That gives us a variety of people from different walks of life. The interview is not personal. We made up a complete list of names of all farmers in the county and drew every fifth name. Your name was drawn and your answers will be important."

(5) What are the questions all about?

Well, the first one is -- read it off -- then continue with the interview.

b. The respondent should feel at ease.

(1) Do not appear hurried.

(2) Be friendly. Give the respondent time to adjust to the situation.

(3) It is best never to interview a person or a family with others listening in. Their presence may influence the respondent's replies.

(4) Be an attentive and responsive listener. Let the respondent know that you are interested in him or her.

c. Some rules for asking questions.

(1) Be familiar enough with the wording of the questions to be able to ask them in a conversational manner.

(2) Always ask every question the respondent is supposed to answer. Do not omit.

(3) Ask all questions just as they come on the questionnaire. A question asked out of order can influence responses to subsequent questions.

(4) Get complete answers. Overcome preliminary "don't knows" and unspecific replies by saying, "Well, on the whole (repeat question) or "Well, in general (repeat)."

(5) Be neutral. It takes very little to encourage a respondent to give you the answers he or she thinks you want.

(6) Do not attempt to explain a question. Repeat the exact wording of the question slowly and distinctly, emphasizing the key words. For example:

"Just let me repeat the question as it is worded here (then repeat)", or "Well generally speaking, what would you say? (Repeat question).

If the respondent still cannot answer, record "do not know" as his response.

d. Departure.

(1) Leave the respondent with the feeling that he or she is glad you called. The interview should be conducted with this in mind.

(2) It is helpful to leave a brochure which explains something about the Extension Service if the Extension Service is unknown to the respondent or to tell the person something about the Extension Service.

e. Refusals.

Almost anyone can be interviewed if you find the right approach. Do not force the interview on a person. If he refuses try to make an appointment for some other time when he is less busy. If this also fails thank him very much for considering your request and leave, showing no resentment. This happens very seldom so do not anticipate it. Try to avoid refusals but if you can't avoid one accept it graciously. Then forget it. Remember that there are bound to be a few refusals in any survey so don't take them personally if you get them.

f. Call-backs. - To complete assignment make two call-backs at the homes where the farmer or homemaker were not at home at the time of your first call, or where he or she was too busy to be interviewed at the time of your first call. Ask when it will be convenient for you to call.

Record families to be called on again as follows:

"Sample Survey Unit No. 32 - 1215 Alabama (Not at home)."

"Sample Survey Unit No. 32 - 811 West Market (homemaker too busy)".

"Sample Unit No. 38 - Mitchel Route (First white house with red barn west of valley road - only 16-year old boy at home)".

g. Editing the schedule by the interviewer.

(1) Edit the schedule as soon after you have completed it as possible.

(2) Be sure that there is an entry for each question.

(3) Make sure your writing is legible.

(4) Amplify the respondent's phrases or comments that you did not have time to get down in full during the interview. Be sure that the answer represents what the respondent said. Do not substitute what you wish had been said for what the respondent actually said.

(5) Be sure that the address of the respondent is correct.

(6) Remember that the respondent's answers on the questionnaire are strictly confidential. Do not discuss his answers with others in the neighborhood or area.

(7) Turn in the completed schedule each day to the person in charge of checking schedules.

F. Editing the schedule by the one who checks or edits all of the schedules to prepare for tabulation of data.

1. In a formal type study the questionnaires are edited during the time of the study usually each evening by the person in charge of the study or by a person especially assigned to do the checking and editing. This person makes sure that there are no omissions or inconsistencies, that the data are (1) as accurate and reliable as possible, (2) uniformly entered, (3) complete as possibile, (4) acceptable for tabulation. If there are inconsistencies these should be cleared up by further questioning.

2. The person doing the editing or checking also examines with each interviewer his map to see that all farmers or homemakers in each of the sample areas were contacted or if they were not. The reason for failure to contact should be clearly explained.

The principles underlying the editing of questionnaires or schedules are the same as for mail questionnaires and other types of report forms.

3. Other stages at which editing of a schedule may take place;

   a. At the beginning of the tabulation and analysis process.

   b. Specific problems may arise in coding which requires further editing.

Suggested Schedule for Planning, Developing, and Completing a Study in Which a State and the Federal Extension Service Cooperate

In such a cooperative study it is important that one person from the Division of Extension Research and Training of the Federal Extension Service, and one person in the State Extension Service be given definite joint responsibility in order to facilitate communications and work.

Calendar	Jobs to be done	Who is responsible (name of worker)
	1. Initial planning. Defining objectives. Deciding on procedures and general plans. Time: 1 or 2 days Conference in State	
	2. Preparing preliminary draft of questionnaire. Time: 1 week	
	3. Check draft of questionnaire by mail between State and Federal staff. Time: 2- 3 weeks.	
	4. Consultations with other staff members concerned. (State and Federal.) Time: Approximately 2 or 3 days	
	5. Prepare final draft of questionnaire. Time: 1 week	
	6. Clear questionnaire with Budget Bureau as required by Reports Act of 1942.	
	7. Plan method of tabulation and tables to be followed. Time: 1 week	

Calendar	Jobs to be done	Who is responsible (name of worker)
	8. Prepare sample. Time: 2 weeks.	
	9. Make copies of schedule for pretesting. Time: 2 days.	
	10. Pretesting questionnaire. Time: 1 or 2 days	
	11. Revise, duplicate and assemble questionnaires. Time: 1 week or more.	
	12. Train interviewers, collect information and edit schedules. Time: 1 week.	
	13. Tabulate and summarize. Time: 1-2 months, depending on staff and facilities.	
	14. Write report. Time: 1 month (?)	

Note: This is a consecutive and rapid schedule and could only be met if there were no undue emergencies, as many other jobs are usually being done consecutively, by both State and Federal workers.

Developed by Jewell Fessenden, Division of Extension Research and Training.